

## REMARKS/ARGUMENTS

Applicant acknowledges receipt of the Office Action dated July 6, 2010. By this Response, claims 1 and 13 are amended. Claims 1, 2, 7-11, 13, 14, and 17 are pending in this application. The Examiner has objected to Figure 2. Claims 1, 2, 7-11, 13, and 14 are rejected under 35 U.S.C. §102(b) as being anticipated by Yamazaki, U.S. Patent No. 5,440,152 ("*Yamazaki*"). Claim 17 is rejected as unpatentable over *Yamazaki* and Murthy, U.S. Patent No. 6,723,622 ("*Murthy*"). Applicant believes the pending claims are allowable over the art of record and respectfully requests reconsideration and allowance of all claims.

### I. Figure 2 has been amended.

The Examiner has objected to Figure 2. By this Response, Figure 2 has been amended as requested by the Examiner.

### II. Claims 1, 2, 7-11, 13, and 14 are not anticipated by *Yamazaki*.

The Examiner rejected claims 1, 2, 7-11, 13, and 14 as being anticipated by *Yamazaki*. Applicant submits that claims 1, 2, 7-11, 13, and 14 are not anticipated by *Yamazaki* because *Yamazaki* fails to disclose each and every limitation of these claims.

Claim 1 is an independent claim upon which claims 2 and 7-11 depend. Claim 13 is an independent claim upon which claim 14 depends. Claims 1 and 13 as amended recite "wherein the ratio of the first material to the second material of the compound layer decreases from the intermediate point to the upper surface of the compound layer." Nothing in *Yamazaki* discloses such recitations. Instead, *Yamazaki* discloses that in the first collector region 3A extending from the point intermediate 3A and 3B, the Ge content linearly increases from 8 mole % to 10 mole %. (*Yamazaki*, col. 7, lns. 47-54; Fig. 6) From such peak found within the collector region 3A, *Yamazaki* discloses that the Ge content then decreases to a point at which the collector region 3A joins the p-type base region 10. (*Yamazaki*, col. 7, lns. 47-54; Fig. 6) For instance, *Yamazaki* specifically teaches "[i]n a base-side part of the first collector region 3A, the Ge content linearly

increases from about 8 mole % to 10 mole % at the same gradient or slope as that of the emitter region 13. In a buried region-side part of the first collector region 3A, the Ge content linearly decreases from 10 mole % at the peak of the content to 3 mole % at the interface of the first and second collector regions 3A and 3B.” (*Yamazaki*, col. 7, lns. 47-54) It is clear from the teachings of *Yamazaki* that the peak Ge content is at 10 mole %, which is found somewhere within the region 3A. Such disclosure is contrary to the required recitations of independent claims 1 and 13 as amended “wherein the ratio of the first material to the second material of the compound layer decreases from the intermediate point to the upper surface of the compound layer.”

In view of the recitations in independent claims 1 and 13 that are not disclosed by *Yamazaki*, the Applicant respectfully requests that the Examiner withdraw the § 102 rejections and allow independent claims 1 and 13. Applicant further requests that the Examiner also withdraw the § 102 rejections of dependent claims 2, 7-11, and 14, since it is submitted that independent claims 1 and 13 are allowable. Dependent claims 2, 7-11, and 14 must *a fortiori* also be allowable, since they carry with them all the limitations of the independent claims 1 and 13 to which they ultimately refer.

### **III. Claim 17 is patentable over *Yamazaki* and *Murthy*.**

Applicant respectfully traverses the Examiner's rejection of claim 17 under §103 as being unpatentable over *Yamazaki* and *Murthy*. Applicant submits that the Examiner has not made a *prima facie* case of obviousness in rejecting such claim.

Claim 13 is an independent claim upon which claim 17 depends. As noted above, nothing in *Yamazaki* discloses all recitations of independent claim 13. Nothing in *Murthy* teaches or suggests the missing recitations of independent claim 13.

In view of the recitations in independent claim 13 that are neither taught nor suggested by *Yamazaki* and *Murthy*, the Applicant respectfully submits that independent claim 13 is allowable over *Yamazaki* and *Murthy*. Applicant therefore requests that the Examiner withdraw the §103 rejection of dependent claim 17, since it is submitted that independent claim 13 is allowable.

Dependent claim 17 must be allowable, since it carries all the limitations of the allowable independent claim 13 to which it refers.

#### **IV. Conclusion**

Applicant respectfully requests reconsideration, allowance of the pending claims and a timely Notice of Allowance be issued in this case. If the Examiner feels that a telephone conference would expedite the resolution of this case, the Examiner is respectfully requested to contact the undersigned.

In the course of the foregoing discussions, Applicant may have at times referred to claim limitations in shorthand fashion or may have focused on a particular claim element. This discussion should not be interpreted to mean that the other limitations can be ignored or dismissed. The claims must be viewed as a whole, and each limitation of the claims must be considered when determining the patentability of the claims. Moreover, it should be understood that there may be other distinctions between the claims and the prior art that have yet to be raised but which may be raised in the future.

Respectfully submitted,

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